



Learning from participatory design projects across industries

Broberg, Ole; Souza da Conceição, Carolina

Published in:

Conference Proceedings of 12th International Symposium on Human Factors in Organizational Design and Management

Publication date:

2017

Document Version

Publisher's PDF, also known as Version of record

[Link back to DTU Orbit](#)

Citation (APA):

Broberg, O., & Souza da Conceição, C. (2017). Learning from participatory design projects across industries. In *Conference Proceedings of 12th International Symposium on Human Factors in Organizational Design and Management* (pp. 426-427)

General rights

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

LEARNING FROM PARTICIPATORY DESIGN PROJECTS ACROSS INDUSTRIES

Ole Broberg

obro@dtu.dk

Carolina Conceicao

*Technical University of Denmark
DTU Management Engineering
Engineering Systems Division*

KEYWORDS

Participatory design; framework; work systems interaction.

SUMMATIVE STATEMENT

A preliminary framework for participatory design projects (PDP) was developed based on a retrospective analysis of five PDPs across different industries. The framework may serve as a guidance for planning and conducting PDPs.

Apprendre des projets de conception participative réalisés dans diverses industries

MOTS-CLÉS

Conception participative, cadre de travail, systèmes de travail, interaction des systèmes de travail

SOMMAIRE

Un cadre préliminaire lié aux projets de conception participative (PDP) a été élaboré à partir d'une analyse rétrospective de cinq PDP dans diverses industries. Ce cadre pourrait s'avérer utile en vue de la planification et de la réalisation de PDP.

PROBLEM STATEMENT

A growing number of experiences with participatory design or participatory ergonomics projects have been gained within the field of macro-ergonomics. It is suggested that the Participatory Ergonomics Framework (PEF) validated by Haines et al. (2002) needs to be updated based on these experiences and hence more focused on design activities.

RESEARCH OBJECTIVE/QUESTION

The objective of this study was to update and design-orient the PEF based on experiences with PDPs within the last ten years.

METHODOLOGY

Five participatory design projects across different industries were systematically analyzed and compared in order to develop a framework pointing to supportive theory and practical guidance for ergonomics practitioners. The five PDPs were based in the following industries: construction, public service, food processing, and two healthcare projects (Broberg 2006 and 2010; Seim & Broberg 2010; Broberg et al. 2011; Broberg & Edwards 2012; Conceicao et al. 2013). The starting point for the analysis was the notion of work systems meeting each other in the intervention into design projects by ergonomists/researchers.

RESULTS

The nine dimensions and categories in the framework by Haines et al. (2002) are still relevant. However, they are not entirely oriented towards design projects and the framework do not include the dynamics between the ergonomist/researcher and the design activities going on in a company. It is suggested to add the following dimensions to the PEF: Involved work systems, type of interaction between the ergonomist work system and the company design work systems, transfer and integration of results from PDPs into the overall design project in the company.

DISCUSSION

The proposed update of the PEF introduces a dynamic understanding of PDPs by the notion that PDP's may be seen as interactions between different work systems, including those of the ergonomist/researcher, company designers, consultants, and technology suppliers. By an initial mapping the relevant work systems, the intervention by ergonomists may be better planned and better ensure a real impact on the overall design project. This is of importance because many PDPs have an intermittent and temporary character. The notion of interaction between different work systems also allows for theories on how ergonomists/researchers can impact design projects by facilitating participatory schemes.

CONCLUSIONS

This study suggested an updating of the PEF in order to include the dynamics between an ergonomist work systems with its own goals and rationale and a number of company work systems involved in design projects and having other goals and rationales. The updated framework is aimed at guidance in planning and conduction PDPs.

ACKNOWLEDGEMENTS

REFERENCES

- Broberg, O. (2006). Workspace design: Integrating ergonomics into the design of production systems. In R.N.Pikaar, E.A.P.Koningsveld, & P.J.M.Settels (Eds.), *Meeting Diversity in Ergonomics* (p. 4pp.). Amsterdam: Elsevier.
- Broberg, O. (2010). Workspace Design: A case study applying participatory design principles for healthy workplaces in an industrial setting. *International Journal of Technology Management*, 51(1), 39-56.
- Broberg, O., Andersen, V., Seim, R. (2011). Participatory ergonomics in design processes: The role of boundary objects. *Applied Ergonomics*, 42, 464-472.
- Broberg, O., Edwards, K. (2012). User-driven innovation of an outpatient department. *Work*, 41, 101-106.
- Conceicao, C., Broberg, O., Banke, P., Aldrich, P. (2013). *Interactive methods to involve users into workspace design process*. Proceedings from 50ème Congrès International. Société d'Ergonomie de Langue Francaise.
- Haines, H., Wilson, J.R., Vink, P., Koningsveld, E. (2002). Validating a framework for participatory ergonomics (the PEF). *Ergonomics*, 45(4), 309-327
- Seim, R., Broberg, O. (2010). Participatory workspace design: A new approach for ergonomists? *International Journal of Industrial Ergonomics*, 40, 25-33.